FOCUS
A Vitec Company

FS-T1001
Media Recorder

User Guide

Idx 11587

Legal

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Web	www.focusinfo.com

Serial Number

The serial number for this equipment is located on the base of the unit. Please record this serial number and keep it in a secure area.

Regulations and Safety

	Focus Enhancements, Inc. 931 Benecia Ave. Sunnyvale, CA. 94085
	Model Number: FS-T1001 Media Recorder
	Date of Manufacture: Reference the Serial Number label attached to the unit.

FCC Class A

This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors.

This equipment has been tested and found to comply within the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, correct the interference by one or more of the following actions:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment to an outlet on a circuit different from that used by the receiver.

• Consult the dealer or an experienced radio/TV technician for help.

Compliance

FS-T1001 is a device marketed for use in industrial or business environments. The FS-T1001 complies with the regulations the following testing agencies:

Australia and New Zealand

European Union

VCCI - A

この装置は，クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。　　　　　ＶＣＣＩ－Ａ

Documentation

Read, Retain, and Follow Instructions

All the safety and operating instructions should be read before the product is operated.

- Retain Documentation
  Place documentation in a secure place for future reference on operating and safety instructions.
- Follow All Operating and Safety Instructions
- Pay Attention to All Warnings.
  Warnings are provided to protect the operator, the equipment, and content.

Symbols Used in FS-T1001 Documentation

Caution
This symbol indicates important operating or maintenance (servicing) information that the user should read and understand.

Note
This symbol indicates supplementary information about features, functions, or operations that may be of interest to the user.

Precautions

Do Not Expose to Moisture

Do not use this product near water or in an environment where it is exposed to dampness or there is the possibility of it getting wet.

Do Not Remove Cover

There are No User Serviceable Parts inside this unit. Servicing should be done by qualified service personnel.

Operating Environment

Avoid moisture, dust, extreme heat or cold.

Power Sources

Use only power sources that match those indicated on the marking label. If unsure of the type of power supply that is available, consult your dealer or local power company.

Accessories and Replacement Parts

Use only attachments and accessories recommended by Focus.

Use only replacement parts specified by Focus or of comparable quality and characteristics as the original parts.

Unauthorized substitution of parts can result in loss of warranty.

Legal Notices

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Introduction

Thank you for purchasing the Focus FS-T1001 Media Recorder. The FS-T1001 is a camera-mount XDCAM EX recorder made for use with HD-SDI capable devices, such as HDCAM and XDCAM HD camcorders, allowing them to take advantage of XDCAM EX based workflow. FS-T1001 records to removable SxS cards in the XDCAM EX (35Mb/s 1080i/720p and 25Mb/s 1080i) format. FS-T1001 mounts to the camera using standard Sony V-Lock Mount Battery adapters, allowing FS-T1001 to mount between the camera and its battery system. This is also the primary power source for FS-T1001.

Unpacking

Verify that the FS-T1001 has the following items:

1	FS-T1001 Media Recorder Unit	11579
2	HD-SDI Cable (BNC)	11611
3	USB A-A Cable	11444
4	User Guide/Lit Pack	11587
5	Velcro Cable-Route Strap	12407

Battery Power Source Required

The FS-T1001 requires a battery power source, such as Sony V-Mount type battery or DC12V 4-pin XLR power supply. These items are sold separately.

See the Focus website for qualified devices.

Missing or Damaged Components

If there are missing or damaged items, contact Focus Support for assistance.

USA	
Office Hours	Monday through Friday 7:30 AM to 4:00PM (Pacific Time)
Email	support@focusinfo.com
Telephone	+1 650 230 2440 x429
Web	www.focusinfo.com

EMEA (Europe, Middle East, Africa)	
Office Hours	Monday through Friday 9:00 AM to 5:00PM
Email	techsupport@como.com
Telephone	+49 4307 - 83 58 58

Features

- Record XDCAM EX Video on SxS Solid-State Recording Media. Check the Focus FS-T1001 product page (www.focusinfo.com) for the latest list of qualified media.
- Record in industry standard XDCAM EX directory structure including HQ (35Mbps) and SP (25Mbps) modes ensuring maximum compatibility
- Mount the compact FS-T1001 on your V-lock camera
- Use the FS-T1001 to playback and preview clips to an HD-SDI monitor
- View menus and thumbnails on the built-in 2.4" color OLED display, from any angle
- Control the FS-T1001 quickly and easily using the capacitive touch buttons and intuitive menu structure
- Never miss a shot with retro-cache recording (up to 10 seconds)
- Mount SxS cards to a computer (slave mode) and connect accessories (host mode) using the dual USB ports
- Connect to a wide array of cameras (input) and monitors (output) using the HD-SDI I/O ports

Quick Start

Physical Description and Controls

Front View – Controls

Dock Mount attach point for secure accessory mounting.

Dock Mount
For secure attachment to cameras.
Thumb screws are not shown.

Color OLED Display 2.5", 240x320
Menu, Status, and Clip Thumbnail

Sony V-Lock
battery mounting hardware

Sony V-Lock
For camera attachment.

Power Button

Control Buttons
(Play/Pause, Stop, Rec)

Menu Buttons
Home and OK

ExpressCard 34 Slot
For use with SxS media.

Scroll-pad
Touch buttons are located at the 12, 3, 6 and 9 o'clock positions.
To enter the FS-T1001 Menu, tap the 3 or 9 o'clock positions.

ExpressCard Slot Cover.
To remove, lift from lip at the base of slot.
To reinsert, push cover into place until flush.

TIPS:
- To safely eject an SxS card, press the HOME key for 3 sec
- Press the OK button during record to view different TC/UB modes

Speaker
Provides warning sound and feedback during menu navigation.

Display shown:
● 11 REC   1-001
XDCAM EX HQ Mode
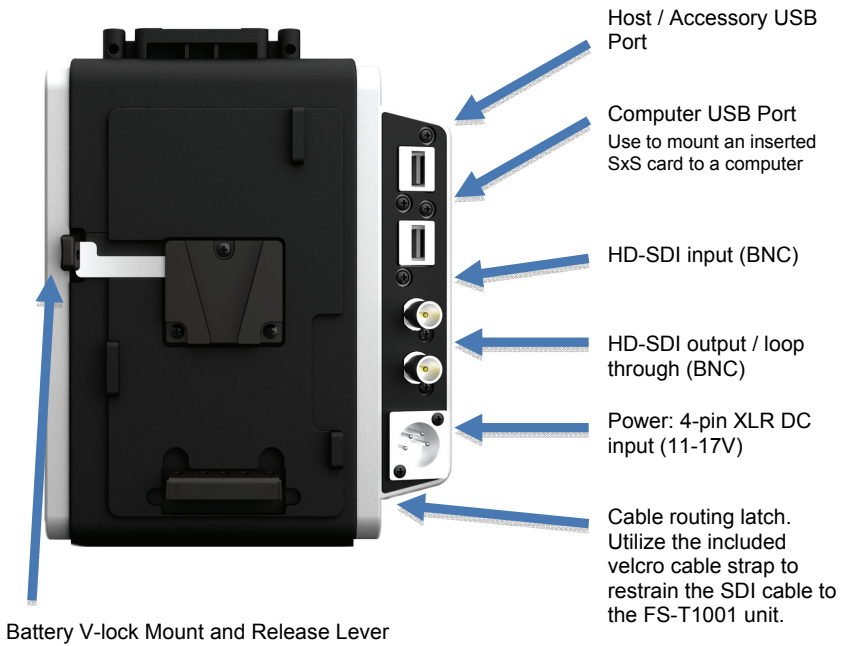TC 1050I60
00:27:18:07
SxS Pro 50min

Control Types

Tactile – provides physical feedback when pressed: Power button.

Capacitive Touch – does not provide physical feedback (optional audible feedback only):

Rec / Play Control and Menu buttons, and Scroll-pad and Select button.

Rear View – Connections

Host / Accessory USB Port

Computer USB Port
Use to mount an inserted SxS card to a computer

HD-SDI input (BNC)

HD-SDI output / loop through (BNC)

Power: 4-pin XLR DC input (11-17V)

Cable routing latch. Utilize the included velcro cable strap to restrain the SDI cable to the FS-T1001 unit.

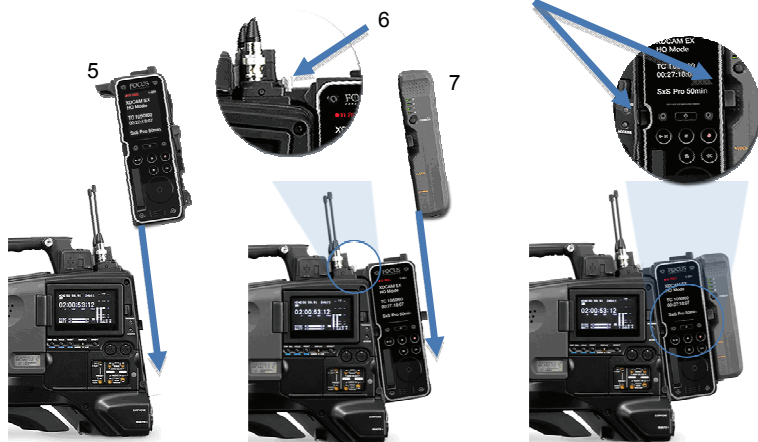Battery V-lock Mount and Release Lever

Mounting and Dismounting the FS-T1001

For a complete list of cameras compatible with the FS-T1001, visit the FS-T1001 product page at www.focusinfo.com.

FS-T1001 is designed to mount to cameras that have an HD-SDI output, V-lock battery plate, and a Sony accessory dock mount.

Mounting on a Camera

To mount FS-T1001 to a camera:

1. Make certain that both the camera and FS-T1001 are powered off.
2. Disconnect the power cable to the camera.
3. Set the camera on a sturdy surface.
4. Orientate the FS-T1001 front side (OLED display side) with the inner side of the camera: typically this is the side with the viewfinder and controls.
5. Slide the FS-T1001 into the V-lock mount on the camera.
   The dock mount arm on FS-T1001 should align with camera's dock mount. The FS-T1001 locks into the V-lock plate.
6. Once inserted, tighten the two docking thumbscrews on the accessory dock. Be careful not to over tighten.
7. Attach a V-lock battery to the rear of FS-T1001.
   The battery locks into place.

Dismounting from a Camera

Remove a battery from FS-T1001:
1. Press in the V-lock release lever and slide the battery up and off the unit.
2. Remove FS-T1001 from the camera.
   1. Unscrew the dock thumbscrews from the camera.
   2. Then, press the camera's V-lock release lever and slide the FS-T001 up and off the camera.

Connecting FS-T1001 to Camera's HD-SDI Port

FS-T1001 ships with an HD-SDI compatible 75-ohm BNC cable. To connect the camera and FS-T1001, follow these steps:
1. Locate the HD-SDI port on the camcorder.
   Ensure that the HD-SDI output port on the camera is enabled and outputting a valid HD signal. Consult the camcorder's user manual for additional information.
2. Connect one end of the BNC cable to the camera's HD-SDI output port.
3. Connect the other end of the BNC cable to the HD-SDI in port on the FS-T1001, see illustration on page 5.

   NOTE: Utilize the included velcro cable strap to restrain the SDI cable to the FS-T1001's cable routing latch.

Inserting and Removing SxS Media

Inserting SxS Media Into FS-T1001

FS-T1001 is compatible with SxS media. Check the Focus FS-T1001 product page (www.focusinfo.com) for the latest list of qualified media. SxS media with available space must be inserted into the FS-T1001's ExpressCard 34 slot in order to use the product. If being used for recording, make sure the SxS card's write protection feature is switched off.

To insert SxS Media into FS-T1001, follow these steps:

1. Remove the SxS polymer dust cover by lifting it from the lip at its base.
2. Insert the SxS card with its backside label facing the FS-T1001 Scroll-pad.
   The card is keyed so that it will only insert in the correct orientation. Never force the card into the slot.
3. Reinstall the polymer dust cover.

Removing SxS Media from FS-T1001

To remove SxS media from FS-T1001, follow these steps:

1. Remove the SxS polymer dust cover by lifting it from the lip at its base.
2. Release the SxS card.
   Press on it firmly and release. The card disengages and springs forward.
3. Grasp the card and pull it from the unit.
4. Replace the polymer dust cover.

Safely Ejecting SxS Media
It is necessary to safely eject SxS media in order to avoid possible corruption of content on the card. To safely eject a card, navigate to the UTILITIES -> EJECT MEDIA menu item or hold down the HOME key (when on the home screen) for 3 seconds.
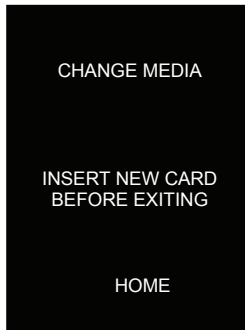
Setting Up FS-T1001 for Use

Once FS-T1001 has been attached to camera and media has been inserted:

1. Power on FS-T1001 by pressing the tactile power button. The FS-T1001 OLED screen immediately lights. A few seconds later the FS-T1001 boot-up screen appears.
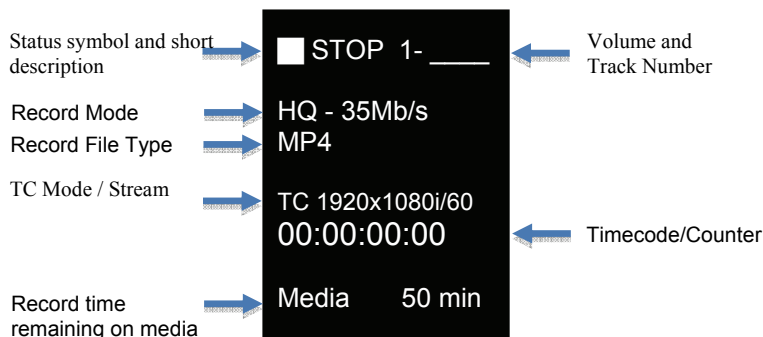

If there is no media in the FS-T1001, the following system message appears on the FS-T1001 display:

When valid SxS media is inserted, the following information appears on the FS-T1001 display. (NOTE: after media has been inserted, press the HOME button to continue).

Status symbol and short description	■ STOP 1- ____	Volume and Track Number
Record Mode	HQ - 35Mb/s	
Record File Type	MP4	
TC Mode / Stream	TC 1920x1080i/60	
	00:00:00:00	Timecode/Counter
Record time remaining on media	Media 50 min	

Timecode / User Bit Display Options

By pressing the OK button during record, it is possible to cycle through the different timecode / user bit modes. These are:

- COUNTER: Displays current clip duration starting from 00:00:00:00. Detected stream type is displayed above the TC counter
- USER BIT: Displays current user bit setting in the stream. Detected stream type is displayed above the TC counter
- TC: Displays source TC being recorded in the stream (EXT TC timecode mode must be selected). Detected stream type is displayed above the TC counter

The FS-T1001 Menu Controls

Scroll-pad
Use to move between a menu's options or increase/decrease values in a field.

Menu Control Spots
To enter the FS-T1001 menu, press on the 3 or 9 o'clock positions on the FS-T1001 scroll pad for about 1/2 second.

To move between the menus, continue to press on either the 3 or 9 o'clock points.

Use the FS-T1001 touch scroll pad to move UP and DOWN in a menu or increase/decrease field Values.

FS-T1001 Menu System

FS-T1001 has three separate menus that are organized in a loop along with the home screen. The menus are **OPERATION**, **SETUP** and **UTILITIES**.

Going From Menu to Menu
It is necessary to have the top of a particular menu highlighted in order to move to the next menu. It is not possible to go to another top-level menu if a menu option is highlighted.

Menu Tree

Basic FS-T1001 Setup

Settings

FS-T1001's menu settings are saved on FS-T1001 through power cycles. Many FS-T1001 settings are set-and-forget.

Set Date and Time

Prior to utilizing FS-T1001, enter the menu and navigate to the **SETUP** menu. From the **SETUP** menu, set FS-T1001's Date and Time (as well as Time Zone and DST Adjust if desired). For more information on setting date/time, see page 22.

Operation Menu Setup

The FS-T1001 **OPERATION** menu provides the basic settings for unit operation. The most common unit settings are found in this menu.

Use the scroll-wheel to move in the Operations menu.

Set Control Mode

There are three **CONTROL** modes available:

- **NORMAL** - Control the FS-T1001 from its front panel. Ancillary record data and timecode start/stop in the HD-SDI input stream is ignored.
- **EXT TRIG** - The FS-T1001 receives Record and Stop triggers from ancillary data in the HD-SDI input stream. This assumes a source that supports ancillary data is being used.
- **EXT TC** - The FS-T1001 monitor's embedded timecode in the HD-SDI input stream. When a camera is set to REC-RUN TC mode, recording will begin on FS-T1001 when timecode is incrementing.

When timecode stops, the recording stops.
NOTE: When this mode is being used, before connecting FS-T1001 to the camera, make sure the camera is set to REC-RUN mode and not recording.

Set Record Mode

Two **REC MODE** options are available:

- **NORMAL** - In normal record mode, FS-T1001 begins recording immediately when triggered.
- **RETRO CACHE** - Retro Cache mode continuously records a constant video loop in the FS-T1001's flash RAM. The length of the video loop can be preset in one-second intervals, up to 10 seconds. Once record is triggered, the cached content is added to the beginning of the recording. See SETUP for presetting the desired retro cache duration.

Set Record Format Mode

Two **REC FORMAT** options are available:

- **HQ MODE** - Sets the record bit rate to 35Mb/s (MP@HL) recording mode in the XDCAM EX format.
- **SP MODE** - Sets the record bit rate to 25Mb/s (MP@H-14) recording mode in the XDCAM EX format.

Set 1080i Frame Size (HQ Mode Only)

Two **HQ 1080i** options are available:

- **1440** - Sets the HQ (35Mb/s) frame size to 1440x1080
- **1920** - Sets the HQ (35Mb/s) frame size to 1920x1080

Set Timecode Mode

Four **TIMECODE** options are available:

- **EXTERNAL** - The timecode recorded comes from the RP188 timecode in the HD-SDI input stream (Default TC display mode)
- **FREE RUN** - The timecode recorded comes from the internal, constantly incrementing free run timecode generator in the FS-T1001. It is possible to set the TC value using the TC Set function in the setup menu.

- **REC-RUN** - The timecode recorded comes from the internal timecode generator in FS-T1001. Timecode only increments when a recording is in process.
The first frame of a new recording will have a TC value +1 from the previous recording.
- **REGEN** - The timecode recorded comes from the internal timecode generator on FS-T1001. Timecode only increments when a recording is in process. The first frame of a new recording will have a TC value +1 from the last recording on the media.

FREE-RUN, **REC-RUN** and **REGEN** record modes ignore the RP-188 timecode in the incoming HD-SDI stream. These modes are useful when the RP-188 timecode in the HD-SDI stream is not desired or the source does not support RP-188 timecode.

Set Audio Mode

There are three **AUDIO** options:

- **Ch 1/2** - When 2-channel audio recording is desired, this setting records channels 1 and 2 of the embedded SDI audio input.
- **Ch 3/4** - When 2-channel audio recording is desired, this setting records channels 3 and 4 of the embedded SDI audio input.
- **Ch 1/2/3/4** - When 4-channel audio recording is desired, this setting records channels 1, 2, 3 and 4 of the embedded SDI audio input. NOTE: 4-channel audio is for use with HQ modes only.

Recording

To begin recording, verify that FS-T1001 is on the home screen.

The FS-T1001 offers three record trigger modes: EXT TRIG (external trigger), EXT TC (external timecode) and NORMAL.

- **EXT TRIG** control mode triggers the FS-T1001 from the camera controls (using ancillary data).

  The camera must support ancillary data in the SDI stream and it may be necessary to enable this function in the camera's setup menu.

  In addition, it may also require media to be inserted and recorded to on the camera: consult the camera's user guide for further information.

- **EXT TC** control mode triggers the FS-T1001 from the camera controls (using timecode breaks).

  The camera must support REC RUN or REGEN timecode and be set to that mode. In addition, it may also require media to be inserted and recorded to on the camera: consult the camera's user guide for further information. NOTE: When this mode is being used, before connecting FS-T1001 to the camera, make sure the camera is set to REC-RUN mode and not recording.

To begin recording using either of the **EXTERNAL** control modes, press any of the supported record triggers on the camera.

- **NORMAL** control mode triggers record directly on the FS-T1001 itself.

  In **NORMAL** mode, press the FS-T1001's record (●) button. The FS-T1001 home screen displays that it is in **RECORD** mode.
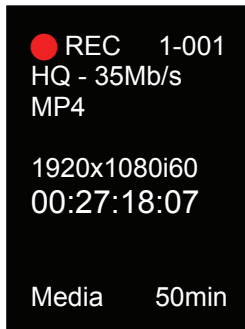
The TC and track number counters increment when recording is in process. Available record time on the inserted media also updates as recording proceeds.

Clip Thumbnails and List

The FS-T1001 automatically creates a single frame thumbnail image for each recording. In addition, the FS-T1001 generates a list of video clips that contains each recording's thumbnails and clip information. This list is viewable on the FS-T1001's OLED and may be used to select clips for playback. To view clip thumbnails, press the FS-T1001 **HOME** key when on the home screen. Utilize the scroll pad to selected between different clips. Press the **HOME** key again to exit this menu. Also, see **Selecting a Clip by its Thumbnail**

Stop Recording

Press either the camera's record trigger again or the FS-T1001's Stop button (■). The FS-T1001 stops recording and displays a **Please Wait** message. After a moment FS-T1001 display returns to the Home menu in **STOP** mode.

```
PLEASE WAIT...

 I I I I I I I
```

```
■ STOP      1-001
HQ - 35Mb/s
MP4

1920x1080i60
00:00:00:00



Media      50 min
```

The Track Number display increments by one.

On the SxS card, the recording is represented as a single clip.

Playback Recording

The FS-T1001 provides the ability to playback video via its HD-SDI output. To preview a video clip connect the FS-T1001 through its HD-SDI port to a camera or HD-SDI display device. The camera must support HD-SDI input and preview functions.

To playback and output a clip from FS-T1001's HD-SDI port:

2. On the Home screen, select the clip to playback by its **Track Number**.

   Use the Scroll-pad's 12 o'clock or 6 o'clock buttons to increment through the Track Numbers of the available clips' stored on the FS-T1001.

3. When the clip is located, press the Play/Pause (▶ / **II**) button.
   Playback begins over the HD-SDI port.

4. To pause the playback, press the FS-T1001 Play/Pause (▶ / **II**) button.

5. Stop playback by pressing the FS-T1001 Stop (■) button.

Selecting a Clip by its Thumbnail

Another method for selecting a clip to playback is to pick it from list of clips that appear on the Thumbnail Preview menu.

1. Go to the Home menu.

2. Press the **HOME** button. (Note: do not press for an extended period as this will force FS-T1001 to safely eject the SxS card).
   A list of the video clips with thumbnails and clip information appears. If there are no video clips, no list appears and the Home menu remains displayed.

3. Locate the file using the Scroll-pad or the Up and Down soft buttons.

4. Press the Play/Pause (▶ / **II**) to start playback.

5. Press Stop (■) to end playback and return to the video clip list.

6. Press Stop the **HOME** button to return to the home screen.

Utilizing FS-T1001 Clips in Other Devices

Once a recording is complete, it is possible to remove the SxS card and insert it into other XDCAM EX devices.

Utilizing FS-T1001 clips on a computer

Once a recording is complete, it is possible to remove the SxS card from the FS-T1001 and mount it to a Mac or Windows computer system by inserting it into an ExpressCard 34 slot/reader or external SxS card reader.

Using XDCAM EX Content on a Computer
It may be necessary to install SxS device drivers and applications that support XDCAM EX import/playback on your computer system. Consult XDCAM EX documentation for information on using XDCAM EX content on your computer system.

When the SxS card is inserted into a reader, the card mounts to the computer as an external volume. An SxS card that has been formatted and recorded by FS-T1001 is compatible with applications that support XDCAM EX.

FS-T1001's directory is identical in structure to SxS cards used with other XDCAM EX devices. When mounted to a computer, the FS-T1001 directory appears as:

MAC
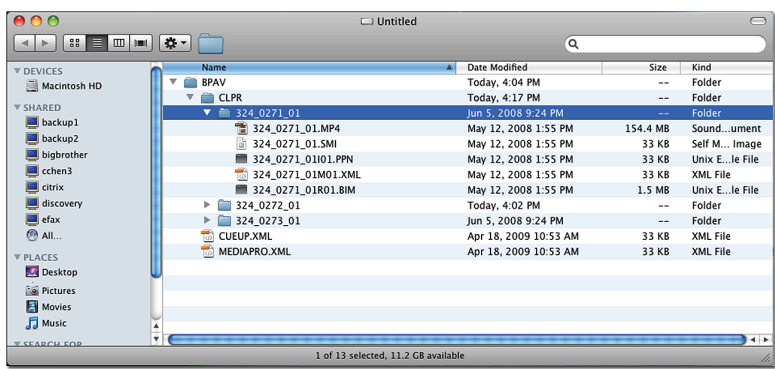
WINDOWS
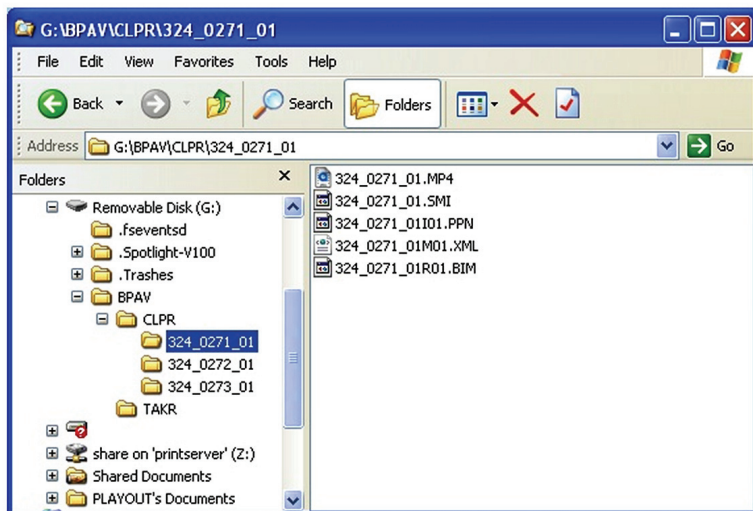
FS-T1001 Menus

Operation Menu

The FS-T1001 Operations menu contains the basic operation and recording settings for the FS-T1001. This menu contains settings that are frequently changed during normal FST-1001 operation. It is also designed to provide a snapshot of the current settings for key operation modes. The Operations menu features the following settings:

Operation	Default	Options
MODE	REC/PLAY	REC/PLAY HDD
CONTROL	NORMAL	NORMAL EXT TRIG EXT TC
REC MODE	NORMAL	NORMAL RETRO CACHE
REC FORMAT	HQ MODE	HQ MODE SP MODE
HQ 1080	1920	1920 1440
TIMECODE	EXT TC	EXT TC FREE RUN REC RUN REGEN
AUDIO	CH 1/2	CH 1/2 CH 3/4 CH 1/2/3/4

MODE

- **REC/PLAY** Use this mode to set the FS-T1001 to recorder/player mode. In this mode, the unit will record input video signals over HD-SDI or playback recorded content via HD-SDI.

- **HDD** Use this mode to set the FS-T1001 to USB device mode. This permits connecting the unit to a computer via USB and mounting the inserted SxS card to the computer's desktop.

CONTROL

- **NORMAL** – Use this setting to control the FS-T1001 from the unit's front panel. Ancillary record trigger data in the HD-SDI input stream is ignored.
- **EX TRIG** - Use this setting to control the FS-T1001 by receiving record and stop triggers from ancillary data in the HD-SDI input stream (assumes a source that supports ancillary data is being utilized).
- **EXT TC** control mode triggers the FS-T1001 from the camera controls (using timecode breaks).

  The camera must support REC RUN or REGEN timecode and be set to that mode. In addition, it may also require media to be inserted and recorded to on the camera: consult the camera's user guide for further information. NOTE: When this mode is being used, before connecting FS-T1001 to the camera, make sure the camera is set to REC-RUN mode and not recording.

REC MODE

- **NORMAL** - In normal record mode, FS-T1001 begins recording immediately when triggered.
- **RETRO CACHE** - In retro cache record mode, the FS-T1001 is constantly in record mode, caching video to flash RAM in a loop on the unit for a predetermined amount of time (set in one second intervals, up to 10 seconds, in the setup menu). Once record is triggered (in either normal or external control mode), the cached content is added to the beginning of the recording.

REC FORMAT

- **HQ MODE** - Sets the record bit rate to 35Mb/s (MP@HL) record mode in the XDCAM EX format.

  HD SDI Input for HQ Mode
  The HD-SDI input signal can be 1920x1080, 1440x1080 or 1280x720 in HQ mode. See the supported frame rates in the specification section of this manual.

- **SP MODE** - Sets the record bit rate to 25Mb/s (MP@H-14) record mode in the XDCAM EX format.

> **HD SDI Input for SP Mode**
> See the supported frame rates in the specification section of this manual.
>
> **Record Modes**
> For both record modes the standard (50/60Hz) and the frame rate will follow that of the source. It is not possible for frame rate conversion, standards conversion, scaling or interlacing/deinterlacing.

HQ 1080i

- **1440** - Sets the HQ (35Mb/s) frame size to 1440x1080
- **1920** - Sets the HQ (35Mb/s) frame size to 1920x1080

TIMECODE

- **EXT TC** - The recorded timecode comes from the RP188 timecode in the HD-SDI input stream.
- **FREE RUN** - The timecode recorded comes from the internal, constantly incrementing free run timecode generator in the FS-T1001. It is possible to set the TC value using the TC Set function in the setup menu.
- **REC-RUN** - The timecode recorded comes from the internal timecode generator in FS-T1001. Timecode only increments when a recording is in process. The first frame of a new recording will have a TC value +1 from the previous recording.
- **REGEN** - The timecode recorded comes from the internal timecode generator on FS-T1001. Timecode only increments when a recording is in process. The first frame of a new recording will have a TC value +1 from the last recording on the media.

  FREE RUN, **REC-RUN** and **REGEN** record modes ignore the RP-188 timecode in the incoming HD-SDI stream. These modes are useful when the RP-188 timecode in the HD-SDI stream is not desired or the source does not support RP-188 timecode.

AUDIO

- **1/2** - When 2-channel audio recording is desired, this setting records channels 1 and 2 of the embedded SDI audio input.
- **3/4** - When 2-channel audio recording is desired, this setting records channels 3 and 4 of the embedded SDI audio input.
- **1/2/3/4** - When 4-channel audio recording is desired, this setting records channels 1, 2, 3 and 4 of the embedded SDI audio input. Note: 4-ch. audio is only possible

SETUP Menu

The Setup menu contains the settings for date and time, usability, timecode, retro cache and play mode. The Setup menu features the following settings:

Operation	Default	Options
DATE	12/14/10	
TIME	10:24:00	
TIME ZONE	UTC	UTC Africa America Antarctica Arctic Asia Atlantic Australia Europe Indian Pacific
DST ADJUST	AUTOMATIC	AUTOMATIC STANDARD ALTERNATE
OLED	ON	ON OFF AUTO
OLED BRIGHT	11	1 - 16 brightness levels
KEY BRIGHT	11	1 - 16 brightness levels
Continued on next page.		

Operation	Default	Options
ALARM	ON	ON OFF
TAKE NUMBER	0001	0-9999
TAKE PREFIX	FST-	User Defined - Upper/lower case letters or numbers
TC SET	00:00:00:00	User defined.
UB SET	00:00:00:00	User defined.
TC MODE*	NON-DROP	DROP NON-DROP
RETRO CACHE	5	0 – 10 seconds, User defined.
PLAY MODE	PLAY CLIP	PLAY CLIP LOOP CLIP PLAY ALL LOOP ALL

* 60Hz record modes only

DATE

Set the FS-T1001 system to the current date.

Default is **07/09/09**.

TIME

Set the FS-T1001 system to the current time.

TIME ZONE

Select the time zone, where the FS-T1001 is to be used.

It is necessary to select the time zone where the FS-T1001 is to operate so that other time features accurately display local time.

In addition, **DST ADJUST**, see below, depends on this setting.

Default is **UTC**, Universal Time Code.

To set the time zone:

1. Select geographical region, such as America or Asia. Use the Scroll-pad and Select button to locate and pick a geographical region.
   Selecting a region displays a list of cities in different time zones within that region.
2. Use the Scroll Pad to locate a city located in the same time zone as the recording session.
3. Press the **Select** key.

The display returns to the **SETUP** menu.

DST ADJUST

This preference sets the daylight savings settings on FS-T1001 to either adjust automatically (based on a set date) or based on standard or alternative settings. There are three settings:

- **AUTOMATIC** Default

  The FS-T1001 Series automatically adjusts to and from daylight savings time. The **TIME ZONE** must be set to location of operation.

- **STANDARD**

  Locks the FS-T1001 to Daylight Standard Time for the location identified in **TIME ZONE**.

- **ALTERNATE**

  Locks the FS-T1001 to Daylight Savings Time for the location identified in **TIME ZONE**.

  Using STANDARD or ALTERNATE
  STANDARD and ALTERNATE are useful during a transition between daylight standard and daylight savings times. Using either setting for the day of the transiting, eliminates the potential time-jump effects when the transition occurs.

OLED

Use to enable/disable the OLED backlight. There are three options:

- **ON** - Permanently sets OLED backlight to ON.
- **OFF** - Permanently sets OLED backlight to OFF.
- **AUTO** - Automatic mode, the OLED backlight lights when any key is pressed and remains on for 10 seconds. Having the OLED backlight off helps save battery power and recording inconspicuously.

LCD BRIGHT

Use to set OLED backlight brightness on FS-T1001: range 1 - 16.
Default is 11.

KEY BRIGHT

Use to set the brightness of the FS-T1001 control keys and scroll
pad: range 1 - 16. Default is 11 (brightest).

ALARM

Enable/disable the FS-T1001 audible alarm. The audible alarm
warns the user of low disk space, power warning or over temp
warning.
Default is ON.

TAKE NUMBER

Sets the second part (4-numeric) of clip names on FS-T1001.

PPPP**NNNN**_01

Take number

EXAMPLE: FST-**0001**-01.MP4

Default is set to "0001". Value is user definable and can be set
in the range of 0001 to 9999.

TAKE PREFIX

Sets the first part (4-alphanumeric) of clip names on FS-T1001.

PPPPNNNN_01

Take prefix

EXAMPLE: FST-0001-01.MP4 s a clip name with TAKE
PREFIX = "**FST_**" and TAKE NUMBER = "**0001**"

Default is set to "FST-". Value is user definable and can be set as
either upper or lower case characters, numbers (0-9), a dash (-) or
underscore (_).

TC SET

Used to preset the TC (timecode) value on FS-T1001. This value is available for use by the FS-T1001 immediately after exiting **TC SET**.

Using the TC SET Value

- **EXT TC** – preset TC value is not used.
- **FREE RUN** - preset TC value continuously increments.
- **REGEN** - preset TC value is not used.
- **REC RUN** – preset TC value is used as the start value for a new recording.

For more information see **HQ 1080i**

1440 - Sets the HQ (35Mb/s) frame size to 1440x1080

1920 - Sets the HQ (35Mb/s) frame size to 1920x1080

TIMECODE on page 22.

Default is **00:00:00:00**.

UB SET

Use to preset the UB (user bit) value for recordings.

Professional applications employ user bits to assist in post production. For example, when multiple cameras are used during a shoot, each FS-T1001 has a unique UB setting that identifies it and the camera it serves. Later, the user bits are used to determine which camera recorded the video clip..

Default is **00:00:00:00**.

TC MODE

Use to set the timecode mode to either DROP frame or NON-DROP frame (60Hz mode only). When using EXT TC mode this setting has no effect because the FS-T1001 follows the timecode mode within the incoming RP188 timecode in the HD-SDI stream.

RETRO CACHE

Use to set the retro cache record time between 1 and 10 seconds.
Default is 5 seconds.

PLAY MODE

- **PLAY CLIP** - When in playback, this mode sets the current clip to play and then stop at the end of the clip
- **LOOP CLIP** - When in playback, this mode sets the current clip to play until the end of the clip and then immediately start playing the clip again in an endless loop.
- **PLAY ALL** - When in playback, this mode plays all clips in order from start to finish.
- **LOOP ALL** - When in playback, this mode plays all clips on the disk until the end and then immediately starts playing from the first clip again in an endless loop.

UTILITIES Menu

Operation	Comment
EJECT MEDIA	Safely ejects the inserted media from FS-T1001 (It is also possible to eject media by holding down the HOME key for 3 seconds while on the home screen).
FORMAT	Formats card. Backup data before using. No Undo.
REPAIR DISK	Repairs the file structure of the SxS card.
FILE NAME	Displays the file name of each video clip.
UPGRADE	Upgrades the FS-T1001 software.
DELETE CLIP	Deletes and removes selected clip from unit. No Undo.
SYSTEM RESET	Resets FS-T1001 to factory defaults.
DIAGNOSTIC	Provides data to assist Focus Technical Support in diagnosing issues.
STATUS	Provides details of power state and internal temperature of unit.
VERSION	Displays the current software version for the unit.

EJECT MEDIA

Use this function to safely eject inserted media. This step is necessary for hot-swap use of media. (It is also possible to eject media by holding down the HOME key for 3 seconds while on the home screen). If you hold down the HOME key for less than three seconds, the thumbnail menu will display.

FORMAT

Use this function to format the SxS media and erase any content on the card. The default SxS directory structure is written to the card.

⚠️ **Backup Content Before Formatting SxS Card**

REPAIR DISK

Use this function to scan the SxS media to search for and repair any errors in the files.

ℹ️ **After Using REPAIR DISK Move Content and Re-Format Card**
After using the REPAIR DISK utility, move the content from the FS-T1001 card and run the FORMAT utility before resuming recording.

FILE NAME

Use this function to display the actual file name of each clip.

It is not possible to change the file name.

UPGRADE

Use this function to upgrade the FS-T1001 firmware.
1. Download upgrade from www.focusinfo.com and copy to an SxS card. When downloading, make sure browser or download app does not automatically unzip file.
2. Ensure upgrade is named "FST.bin".
3. Insert card in FS-T1001 and run select **UPGRADE**.
4. Follow on-screen instructions to complete upgrade.

DELETE CLIP

This function allows you to delete the current clip from the inserted SxS media.

To select a clip to delete:

1. Go to the Home menu.
2. Use the Scroll-pad up or down soft buttons (12 or 6 o'clock) to locate clip. The clip' track number appears in the menu.
3. Go to **UTILITY** menu and select **DELETE CLIP**.

SYSTEM RESET

This function resets the FS-T1001 back to its factory default settings.

DIAGNOSTIC

This function provides Focus technical support with diagnostic information in the event that an issue needs troubleshooting.

STATUS

This function shows system status such as unit internal temperature etc.

VERSION

This function displays the current system firmware version.

Technical Specifications

Compliance

- **CE**
- **FCC Part 15 ,Class A**
- **C-Tick**
- **RoHS**
- VCCi

Environment

- **Operating Temperature**: +23 to 104° F (-5 to 40° C)
- **Storage Temperature**: -4 to 140° F (-20 to 60° C)
- **Humidity**: 10-90% (relative humidity)

> ⚠️ **CAUTION: FS-T1001 can be used in hot environments. The unit's enclosure can be hot to the touch during operation in high temperatures.**

Physical Description

Connections

- **Computer/Accessory/Network I/F**: USB 2.0 Type A (x 2)
- **HD-SDI Input**: BNC (x 1), conforms to SMPTE 292M
- **HD-SDI Output**: BNC (x 1), conforms to SMPTE 292M
- **DC Power Input**: 4-pin XLR (x 1). 11-17V DC

Controls

- **Power and Recording**

  Buttons - capacitive touch with backlight LEDs for:

  > Power
  >
  > Record
  >
  > Stop
  >
  > Play/Pause
  >
  > Home
  >
  > OK

  For more information, see **Front View – Controls** on page 4.

- **Menu Navigation**

  Scroll-pad - capacitive touch with button points.
  For more information, see **FS-T1001 Menu Controls** on page 11.

Media Slot

- Single SxS card slot with slot gasket cover.
  Visit the Focus website (www.focusinfo.com) to see the latest list of qualified cards.

Status Display

- 2.5", 320x240 Color OLED Display

Power

- **Power Consumption** - Less than 10W (nominal).
- **External DC Input** - 11-17V (4-pin XLR).
- **Battery** - Compatible with Sony BP battery series (V-Shoe plate) with pass through to the camera (V-Shoe plate).
  Nominal Voltage = 14.4V.

Supported Input, Output and Recording Formats

Supported Input Format (HD-SDI)

- 1080 59.94i/50i/29.97P/25P/23.98P or 720 59.94p/50p (Note: FS-T1001 does not support 1080i 29.97PsF, 25PsF or 23.98PsF input signals for 30P, 25P or 24P recording)
- 4-channel HD-SDI embedded audio (4-ch or 2-ch: Ch1/2 or 3/4 selectable to record)
- Ancillary data from camera (REC/STOP commands)
- Any given supported input type (e.g. 1080 59.94i) will be automatically detected and set the output encode frame rate/frame size.
- RP-188 timecode in the HD-SDI stream

Supported Output Format (HD-SDI)

- 1080 59.94i/50i/29.97P/25P/23.98P or 720 59.94p/50p
- 4-channel HD-SDI embedded audio
- RP-188 timecode in the HD-SDI stream

Supported Record Formats

XDCAM EX Format

File System: FAT32

File Format: MP4 wrapper (XDCAM EX directory structure)

Video: MPEG2 Long GOP

Audio: Linear PCM (2-ch or 4-ch, 16-bit, 48kHz) – HD-SDI input (In 2-ch. mode, Ch.1/2 or Ch.3/4 is selectable)

Recording Formats:

    HQ Mode (VBR, max. bit rate 35Mb/s, MPEG2 MP@HL)

        1920x1080 @ 59.94i, 50i, 29.97p, 25p, 23.98p

        1440x1080 @ 59.94i, 50i, 29.97p, 25p, 23.98p

        1280x720 @ 59.94p, 50p, 29.97p, 25p, 23.98p

    SP Mode (CBR, bit rate 25Mb/s, MPEG2 MP@H14)

        1440x1080 @ 59.94i, 50i

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FS-T1001 Media Recorder
Idx 11587 (MANL-1177-05)